CHAPTER III. THE SHORT-RANGE FORECAST AND LONG-RUN ECONOMIC ASSUMPTIONS

This chapter presents CBO's short-range forecast for 1982 and 1983, together with its longer-range economic assumptions and budget projections for 1984-1986.

In brief, the CBO forecast assumes that the current recession will continue through the first quarter of 1982. A cyclical upswing is projected for the second half of the year, carrying forward into 1983. The forecast anticipates a substantial reduction in the rate of inflation, because of lower food and fuel price increases and because of smaller wage settlements resulting from smaller cost-of-living increases and high unemployment. Depressed levels of real activity and lower inflation are expected to cause interest rates to decline somewhat from current levels during the next few months. The Federal Reserve's announced money supply targets are not expected to be a major constraint on the economy until economic growth resumes in the second half of 1982. As the recovery progresses, however, tight monetary policy is expected to put upward pressure on real interest rates, thereby restraining growth in real GNP below the average cyclical recovery despite the very large fiscal stimulus implicit in the federal budget projections.

THE SHORT-RANGE FORECAST

Economic Policy Assumptions. The short-range forecast is based on the following fiscal and monetary policy assumptions:

- Total federal government outlays are assumed to be $740 billion in fiscal year 1982 and $809 billion in fiscal year 1983. 1/

- The CBO baseline for federal government revenues incorporates the provisions of the Economic Recovery Tax Act

1/ For further details see Congressional Budget Office, Baseline Budget Projections for Fiscal Years 1983-1987 (February 1982), Chapter II.

of 1981. Personal tax rates are cut 5 percent in October 1981, 10 percent in July 1982, and 10 percent in July 1983. Corporate taxes reflect the "15-10-5-3" Accelerated Cost Recovery System (ACRS). No further tax law changes are assumed in the baseline.

- The growth of the monetary aggregates is assumed to be close to the upper end of the Federal Reserve target ranges for 1982: about 5.5 percent growth for M1, and 9 percent growth for M2.

Commodity Price Assumptions. The critical price assumptions are as follows (percent changes between fourth quarters):

- Food prices increase by 7.1 percent in 1982 and 6.7 percent in 1983. These increases are somewhat below the overall rate of inflation.

- World oil prices remain flat through 1982, and then increase at a rate slightly below the overall rate of inflation (6.5 percent) for 1983. Domestic oil prices increase slightly faster, so as to close the current gap between domestic and foreign prices for equivalent crudes.

- Natural gas prices are assumed to be decontrolled on the schedule currently specified in the Natural Gas Policy Act.

- The foreign exchange value of the dollar falls by 0.3 percent in 1982 and rises by 0.4 percent in 1983.

The Forecast

The CBO baseline policy forecast presented in Table 12 suggests that economic growth will accelerate in the second half of this year and that inflation will continue to moderate:

- Constant-dollar GNP is projected to grow in the range of 1.8 to 3.8 percent from the fourth quarter of 1981 to the fourth quarter of 1982. In 1983, growth is expected to be in the 2.9 to 4.9 percent range.

- Inflation, as measured by the GNP deflator, is expected to decelerate substantially, from 8.6 percent during 1981 to a range of 6.2 to 8.2 percent during 1982, and a range of 5.9 to 7.9 percent during 1983. The CPI, which will benefit from declining nominal mortgage interest rates during 1982, is expected to increase by 5.4 to 7.4 percent from the fourth quarter of 1981 to the fourth quarter of 1982, and by 6.2 to 8.2 percent during 1983.

TABLE 12. THE CBO FORECAST FOR 1982 AND 1983

	Rates of Change (percent)			
	Actual		Forecast	
	1979:4 to 1980:4	1980:4 to 1981:4	1981:4 to 1982:4	1982:4 to 1983:4
GNP	9.4	9.3	8.3 to 12.3	9.1 to 13.1
Real GNP	-0.3	0.7	1.8 to 3.8	2.9 to 4.9
Implicit Price Deflator	9.8	8.6	6.2 to 8.2	5.9 to 7.9
Consumer Price Index	12.5	9.5	5.4 to 7.4	6.2 to 8.2
	Levels (percent)			
	Actual		Forecast	
	1980:4	1981:4	1982:4	1983:4
Unemployment Rate	7.5	8.4	8.2 to 9.2	7.1 to 8.1
3-Month Treasury Bill Rate	13.6	11.8	11.8 to 13.8	12.5 to 14.5
Mortgage Rate a/	13.0	16.0	13.1 to 15.1	12.8 to 14.8

a/ Effective rate on mortgages by all major lenders for purchase of newly built homes.

- The unemployment rate is projected to increase during the first half of 1982 and to decline gradually thereafter, averaging about 8.9 percent in calendar year 1982 and about one percentage point less in 1983.

- The three-month Treasury Bill rate is expected to decline further early in 1982, but to rise again as the recovery gets underway; for calendar years 1982 and 1983, the Treasury Bill rate is projected to average about 12 and 13 percent, respectively.

The Recovery

Although the economy is likely to remain weak in the first half of 1982, economic growth is expected to pick up substantially in the last half of the year. The increase in real disposable income as a result of the tax cuts is expected to lead to higher consumer expenditures, particularly for autos and other cyclically sensitive durable goods. The housing market, too, is expected to benefit from the increase in disposable income and from the projected decline in mortgage interest rates. The improved growth prospects for these two expenditure categories account for more than two-thirds of the growth of final sales during the first year of recovery. Defense spending is also expected to be a factor in the recovery, but business fixed investment is not projected to make a major contribution until 1983, because of low capacity utilization rates and high real interest rates.

Three factors account for the recovery: the increased fiscal stimulus resulting largely from the tax cuts; the moderation of interest rates resulting largely from the recession; and the decline in inflation.

Fiscal Policy. The fiscal policy assumptions underlying the CBO forecast imply a very large stimulus to the economy, because the personal and corporate tax cuts specified in the Economic Recovery Tax Act are not fully matched by corresponding cuts in spending (see Chapter II). The period from 1981 to 1983 contains three large personal tax cuts, which by the end of 1983 will increase spendable consumer income by about $100 billion at an annual rate. The second round of the personal income tax rate reductions in July 1982 is expected to provide a considerable boost to consumer spending during the second half of this year. At the same time, corporate profits taxes will be reduced by about $16 billion by 1983 because of the accelerated capital cost recovery provisions of the tax act.

Interest Rates. Interest rates in the first half of 1982 are expected to be significantly lower than the high rates experienced in 1981. This is largely the result of the recession, which has reduced the demand for money to finance economic activity. The Federal Reserve's policy of stringent money growth, therefore, will not put upward pressure on interest rates in the near term. Once the recovery is underway, however, interest rates will begin to rise from their recession lows.

Inflation. Declining inflation is also expected to contribute to the recovery by encouraging easier credit conditions and growth in real disposable income. CBO anticipates that the assumed lower increases in food and fuel prices will raise significantly the disposable income of both consumers and corporations, thereby aiding the recovery in final demands.

Factors Limiting the Recovery

If prospective financial market conditions were similar to those that prevailed in the past, the large fiscal stimulus implied by the policy assumptions would cause very rapid real growth, substantially above a normal cyclical recovery. Central to the CBO forecast, however, is the belief that the assumed restraint on money growth, combined with strong federal government credit demands arising largely from projected federal deficits, will limit the decline in interest rates, despite lower expected inflation. Continued high real interest rates in the CBO forecast constrain the growth of housing, business investment, and consumer spending sufficiently to produce a below-normal recovery in real economic activity.

Housing. Mortgage rates, in particular, are expected to decline from recent record levels but to remain very high by historical standards. Mortgage payments remain large relative to incomes over the forecast period, effectively limiting the number of people who qualify for new mortgages. Thus, CBO expects the recovery in housing to be modest; housing starts never exceed an annual rate of 1.6 million units for any quarter in the forecast period.

Business Investment. The high levels of corporate bond rates forecast by CBO also offset, in part at least, the enhanced incentives for investment provided by the capital cost recovery provisions of the Economic Recovery Tax Act. In the CBO forecast, long-term corporate bond rates bottom out in 1982 at about 12 percent, which is very high by historical standards, and rise gradually through 1983. The near-term outlook for investment also depends on whether businesses can reasonably anticipate substantially higher rates of capacity utilization in the near future. The 1982 and 1983 personal tax cuts, combined with substantial federal government spending increases, are expected to boost final demands and output, an outcome that serves to brighten the business investment outlook. However, capacity utilization is not projected to reach high levels before the end of 1983 and, as a result, the growth in investment is not expected to be as large as in past cyclical recovery periods.

Consumer Spending. The prospective cuts in personal income taxes will boost real growth in 1982 and 1983. However, the increase in consumer spending may be somewhat weaker than that of past experience. To begin with, a substantial part of the planned reduction in tax rates will be offset by bracket creep induced by inflation and real income growth. Second, the reduction in marginal tax rates, and their concentration in the higher brackets, may induce more saving than has been the experience with past tax cuts. Finally, high interest rates will serve to dampen the growth of household expenditures and encourage savings. Accordingly, the CBO forecast suggests that the personal income tax cuts will lead to smaller increases in consumer expenditures in 1982 and 1983 than would have been the case otherwise.

The Outlook for Inflation

The prospects for continued improvement on the inflation front look good. Most forecasters are predicting a significant reduction in inflation in 1982, driven partly by recent declines in commodity prices and the expectation of continued favorable price developments in food and energy through the remainder of the year. World feed grain harvests were excellent in 1981, and depleted feed grain stocks have been rebuilt. Thus, even if 1982 harvests are somewhat below 1981 levels, the world could probably absorb that reduction without major increases in feed grain prices. The impact of current low feed grain prices on retail meat prices is likely to be felt through the end of 1982 at least. World oil prices are expected to hold at current levels through the end of 1982, and then to increase at a rate about equal to the rate of inflation.

These price expectations appear to be consistent with Saudi Arabia's current intentions and are supported by the current low levels of world oil demand. Oil demand is expected to remain low through the forecast period despite an expected moderate recovery in economic activity in Europe and the United States, because of continuing downward adjustments in the quantity of oil demanded in response to the 1979 and 1980 oil price hikes.

In addition to the good news on commodity prices, it seems likely that labor compensation will grow less rapidly in 1982 than in 1981. Increases in Social Security taxes will add less to labor costs than in 1981, and there is no scheduled increase in the minimum wage in 1982. High unemployment should also encourage lower wage increases. The unemployment rate in the CBO forecast remains above 8 percent throughout 1982, declining only gradually to about 7-1/2 percent over the course of 1983. Moreover, several of the major collective bargaining agreements being renegotiated in 1982 are likely to show a significant slowing in wage gains. Overall, CBO expects the growth of compensation per hour to be reduced by about two percentage points between 1981 and 1983.

UNCERTAINTY IN THE FORECAST

This forecast is subject to an unusual degree of uncertainty. If inflation declines more quickly than expected or if credit conditions are less restrictive than projected, the recovery may be more vigorous. It is also possible that the supply effects of the tax cuts will be larger than assumed by CBO. But most forecasters agree that the downside risks are greater.

Downside Risks. Three factors seem to hold substantial chance for weaker economic growth than in the CBO forecast.

- The Federal Reserve may pursue a more restrictive policy than assumed by CBO, thereby more severely limiting the recovery in economic activity.

- Interest rates may be more sensitive to projected deficits than assumed by CBO. Historical experience is not a very useful guide to the effects of the current unique combination of monetary restraint and fiscal stimulus, especially in view of the magnitudes of the policy changes themselves. Although the CBO forecast shows very high interest rates, particularly in real terms, these rates may not be high enough to induce people to finance the enormous federal credit demands implied by the CBO deficit forecasts.

- There is also considerable risk that inflation will be higher than projected, either because wage settlements prove less responsive to the recession, or because commodity prices, particularly food or fuel, increase more than is now expected. Given Federal Reserve policies, higher inflation would likely result in tighter credit conditions. And, of course, a rapid rise in food or fuel prices would have adverse effects on real income growth and final demands.

If interest rates are driven much higher than those forecast--either because of the deficits or because monetary policy is tighter than assumed by CBO--then the outlook for investment, auto sales, and housing could be much more pessimistic than indicated by the CBO forecast. Even if short-run overall growth were not much weaker than in the CBO forecast, the lower share of investment in GNP would worsen the long-run outlook for growth. It is perhaps more likely, however, that the collision between an expansive fiscal policy and a tight monetary policy would take the form of continued instability both in interest rates and in the level of economic activity. A sharp rise in interest rates might occur early in the recovery, either because credit markets are very sensitive to projected deficits or because the economic recovery is stronger than expected initially. Such a spike in interest rates might result in an early end to the recovery and a new recession.

This scenario of economic instability and overall slow growth is not the CBO baseline forecast, but CBO believes that it should be seriously considered as a significant risk given present fiscal and monetary policies.

FIVE-YEAR ECONOMIC AND BUDGET PROJECTIONS

CBO's economic assumptions and budget estimates for the years 1982 to 1987 are shown in Table 13. The longer-range economic assumptions for the period 1984 to 1987 are not forecasts of probable economic conditions but are, instead, projections that assume what appears to be an attainable improvement in economic conditions. The critical issues leading to uncertainty in the two-year forecast have been laid out above. Those same uncertain factors, along with a number of others, plague the longer-term economic outlook.

TABLE 13. BASELINE ECONOMIC ASSUMPTIONS AND BUDGET ESTIMATES

Variable	1981	1982	1983	1984	1985	1986	1987
	Economic Assumptions, Calendar Years						
GNP (billions of current dollars)	2,922	3,140	3,515	3,882	4,259	4,659	5,083
Real GNP (percent change, year over year)	1.9	-0.1	4.4	3.6	3.5	3.5	3.5
GNP Implicit Price Deflator (percent change, year over year)	9.1	7.5	7.3	6.6	6.0	5.7	5.4
CPI (percent change, year over year)	10.3	7.5	6.9	6.9	6.4	6.0	5.7
Unemployment Rate (percent, annual average)	7.6	8.9	8.0	7.4	7.2	6.9	6.7
3-Month Treasury Bill Rate (percent, annual average)	14.0	12.0	13.2	11.3	9.4	8.7	8.1
	Budget Estimates, Fiscal Years						
Revenues	603	631	652	701	763	818	882
Outlays	660	740	809	889	971	1,052	1,130
Deficit	58	109	157	188	208	234	248

NOTE: CBO's economic projections for the 1984-1987 period are not forecasts of probable economic conditions. Instead, they are assumptions that point to moderate noncyclical growth with sustained progress in reducing inflation and unemployment. It is uncertain whether the economic progress assumed in these projections can be attained with the prospective trend of money growth and without the enactment of further spending cuts or tax increases to reduce the deficit.

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- The prolonged period of slack in economic activity that began in 1979 suggests that there is substantial potential for economic growth over the course of the next several years. Pent-up demands for housing, household durables, automobiles, and business plant and equipment are apparently substantial. Fiscal policy has turned decisively expansionary, and, absent significant budget changes in the near term, will remain highly stimulative as a consequence of the tax cuts enacted in August 1981 and the increased military buildup. Despite these forces, it is highly uncertain whether economic growth will be rapid over the medium term. To a considerable extent, the outcome will be determined by the future course of monetary policy and the success or failure in winding down inflation. If rates of inflation remain high and monetary policy remains staunchly anti-inflationary, little room will be left for any significant expansion of real economic activity. The potential of a clash between monetary and fiscal policy now appears to be nearly as much a problem in the medium term as it is in the short term.

- A rebound in productivity growth is crucial to the support of sustained rapid increases in real economic activity, all the more so in view of prospective declines in future rates of labor force growth. Because the reasons for the slump in the trend rate of productivity growth are not well understood, it is extremely difficult to determine whether and to what extent productivity growth will rebound in future years.

- Although it is easier to make reasonable estimates about the rate of growth of the U.S. population aged 16 years and older over the medium term, it is highly uncertain how the labor-force participation rates of the many subgroups in that population will change over time. Labor-force growth over the next six years is therefore subject to considerable uncertainty.

- Although the food and fuel price assumptions used in the two-year forecast are potentially subject to substantial margins of error, they are even more uncertain for later years.

The major characteristics of the outyear economic assumptions are as follows:

- For each of the years 1984 through 1987, food and fuel prices are assumed to grow at rates 1 percent faster than the overall price level.

- Because of the assumed absence of price shocks, the assumed moderation of wage increases due to relatively high rates of unemployment, and the assumed further reductions in the growth of unit labor costs stemming from increased productivity gains, inflation slows significantly between 1983 and 1987. Thus, the GNP deflator slows from an annual rate of increase of 7.3 percent in 1983 to 5.4 percent in 1987.

- The labor force is assumed to expand at a slower rate in the 1980s than in the 1970s as new entrants into the working-age population from the "baby boom" era dwindle. The working-age population is assumed to grow at an average rate of 1.0 percent over the 1984 to 1987 period. The civilian labor force is assumed to expand at an average annual rate of 1.7 percent during the same time period.

- Productivity growth is assumed to rebound during the projections period, averaging about 1.7 percent a year from 1984 through 1987.

- Real GNP growth is assumed to advance at an average annual rate of 3.5 percent from 1984 to 1987. With inflation trending downward, growth of nominal GNP is assumed to slow from 11.9 percent in 1983 to 9.1 percent in 1987.

- Because of reduced rates of inflation, the three-month Treasury Bill rate is assumed to decline from an average value of 13.2 percent in 1983 to 8.1 percent in 1987.

Given the baseline economic assumptions and the budget policies described at the beginning of this chapter, the medium-term budget outlook shows annual growth in federal spending averaging 9.4 percent and annual growth in federal revenues averaging 6.5 percent from 1981 to 1987 on a fiscal year basis. Thus, deficits rise during the projections period from $109 billion in fiscal year 1982 to $248 billion in fiscal year 1987. Of course, these estimates are subject to a great deal of uncertainty, in part because of the uncertainty in the economic outlook.

Alternative Estimates. To illustrate the sensitivity of the budget estimates to economic assumptions, CBO has prepared two alternative sets of economic assumptions and budget estimates. The alternative economic assumptions are shown in Table 14.

TABLE 14. ALTERNATIVE ECONOMIC ASSUMPTIONS (By calendar year)

	1982	1983	1984	1985	1986	1987
Gross National Product (GNP)						
Current dollars (percent change, year to year)						
Optimistic alternative	7.7	13.0	11.5	10.7	9.6	9.1
Pessimistic alternative	7.3	11.1	9.8	9.2	8.9	8.5
Constant (1972) dollars (percent change, year to year)						
Optimistic alternative	0.2	5.8	5.1	5.0	4.4	4.0
Pessimistic alternative	-0.3	3.0	2.1	2.0	2.0	2.0
Prices						
GNP deflator (percent change, year to year)						
Optimistic alternative	7.4	6.8	6.0	5.4	5.0	4.9
Pessimistic alternative	7.6	7.9	7.5	7.1	6.7	6.4
Consumer Price Index (percent change, year to year)						
Optimistic alternative	7.5	6.4	6.2	5.7	5.3	5.2
Pessimistic alternative	7.6	7.6	8.0	7.6	7.2	6.9
Unemployment Rate (percent, annual average)						
Optimistic alternative	8.9	7.6	6.6	6.0	5.6	5.6
Pessimistic alternative	8.9	8.5	8.4	8.5	8.5	8.5
Interest Rate (91-day Treasury bills, percent, annual average)						
Optimistic alternative	11.5	10.7	9.4	8.3	7.6	7.4
Pessimistic alternative	13.0	14.3	12.7	10.8	10.1	9.4

TABLE 15. BUDGET PROJECTIONS UNDER ALTERNATIVE ECONOMIC ASSUMPTIONS (By fiscal year, in billions of dollars)

	Projections				
	1983	1984	1985	1986	1987
Revenues					
Optimistic alternative	658	713	786	849	921
Pessimistic alternative	650	695	752	799	852
Outlays					
Optimistic alternative	800	863	932	1,001	1,067
Pessimistic alternative	819	912	1,011	1,115	1,219
Unified Budget Deficit					
Optimistic alternative	142	150	146	152	146
Pessimistic alternative	169	217	259	316	367

The first alternative is an optimistic one, predicated on lower inflation and a strong rebound in productivity growth. The assumption of low inflation permits larger gains in purchasing power and easier credit conditions than in the baseline; this, in turn, permits faster economic growth. Nominal GNP also grows more rapidly than in the baseline. By the end of the projection period, the unemployment rate is stable at 5.6 percent, and the annual rate of increase in the Consumer Price Index is only 5.2 percent.

The second alternative is a pessimistic case, which illustrates the potential risks that the economy faces. In this alternative, inflation is higher and productivity growth is lower than in the baseline. In contrast to the first alternative, higher inflation is associated with an erosion of purchasing power and tighter credit conditions. Compared with the baseline, both real and nominal GNP grow more slowly. The unemployment rate remains at about 8.5 percent through 1987, and the rate of increase in the Consumer Price Index does not begin to come down until after 1984.

The revenues, outlays, and deficits resulting from these alternative economic assumptions are summarized in Table 15. Under the optimistic assumptions, the more rapid growth in GNP leads to higher revenues than in the baseline. Lower unemployment, inflation, and interest rates result in lower outlays. The deficits are therefore considerably smaller than in the baseline--leveling off in the vicinity of $150 billion in 1984 and thereafter. In the pessimistic alternative, exactly the reverse is true. Revenues rise more slowly than in the baseline, and outlays grow more rapidly. By 1987, the deficit has reached $367 billion.

CHAPTER IV. SOME IMPEDIMENTS TO ECONOMIC GROWTH

A difficult transition period is ahead for the economy. The Administration and the Federal Reserve have emphasized slower money growth as a means of reducing inflation. At the same time the Congress has enacted large tax cuts to encourage business investment and economic growth. Whether rapid growth and lower inflation can be achieved simultaneously with these policies is uncertain.

There is little doubt that a restrictive monetary policy maintained for the next several years could slow the growth of nominal GNP. The critical question, however, is the extent to which the current monetary-fiscal policy strategy will slow output growth rather than inflation. Historical experience suggests that it may be very difficult to achieve a substantial reduction in inflation and rapid economic growth simultaneously.

Longer-run economic growth in the current economic environment will depend critically on achieving substantial progress in reducing inflation and increasing investment spending. Two major considerations will be the course of labor costs and capital costs.

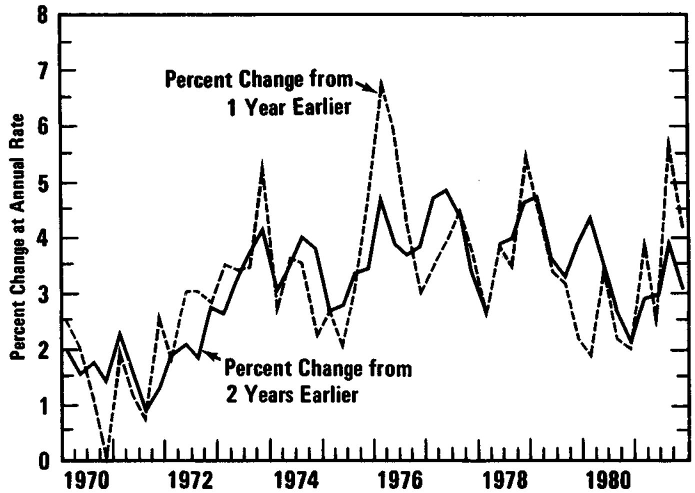
- The growth of unit labor costs. There is substantial risk that money wage rates will continue to rise rapidly, notwithstanding substantial slack in the economy, and that trend productivity growth will fail to rebound significantly. Under these circumstances, inflationary pressures would remain strong and, given the stringency of monetary policy, there would be little room for real growth.

- Capital costs. There is considerable risk that a continued policy of slow money growth will result in persistent high real rates of interest that offset, in part at least, the effects of enhanced tax incentives on business investment.

These factors are not the only determinants of growth, but they are critical if normal growth is to resume for the next five years.

Figure 10.

Velocity of M1



SOURCES:
Federal Reserve System, Board of Governors; U.S. Department of Commerce, Bureau of Economic Analysis.

This chapter begins with a brief overview of the relation between money aggregates and nominal GNP, and the behavior of prices and wages. The second part examines some of the sources of momentum in unit labor costs. The third part discusses the interaction of monetary and fiscal policies and their combined effects on economic growth. The last part provides a conclusion and brief policy discussion.

INCOME VELOCITY OF MONEY AND THE BEHAVIOR OF PRICES AND WAGES

Although the relationship between the gross national product and the supply of money has been quite unstable over short periods of time, such as a quarter or even a year, it is considerably more stable over longer time periods, such as two or three years (Figure 10). This implies that a tight monetary policy may impose a kind of ceiling on the growth of total spending (or nominal GNP) over a period of several years. 1/ Historically, a reduction in total

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1/ The growth in the income velocity of M1—the ratio of GNP to M1--for the last ten years is shown in Figure 10. It indicates first that velocity has tended to increase over this ten-year period but second, that the path has not been spending growth in the economy has reduced output and employment more than inflation, at least over the subsequent two years or so.

Figure 11 shows the growth of gross domestic product (GDP) during the past three decades. The lower panel shows the extent to which slowdowns in total spending were expressed in effects on output rather than on prices. The initial response to slower spending--and, therefore, to restrictive monetary and fiscal policies--is concentrated in lost output and higher unemployment rather than in lower inflation. In 1969-1970, for example, the growth in total spending fell about four and one-half percentage points. This decline was wholly absorbed by a deceleration in constant-dollar production and a sharp rise in joblessness. During this period, inflation as shown by the GDP deflator actually accelerated by half a percentage point, although it fell by more than a full percentage point during the next three years. The unfavorable split was even more dramatic in 1974, when total spending decelerated by about four percentage points, while the growth in real output fell by about six and one-half percentage points and unemployment rose. Improvement in inflation did not occur until 1975 and 1976.

One reason why inflation has been difficult to slow is that wage increases tend to be particularly persistent. Labor costs account for the bulk of total production costs (about two-thirds

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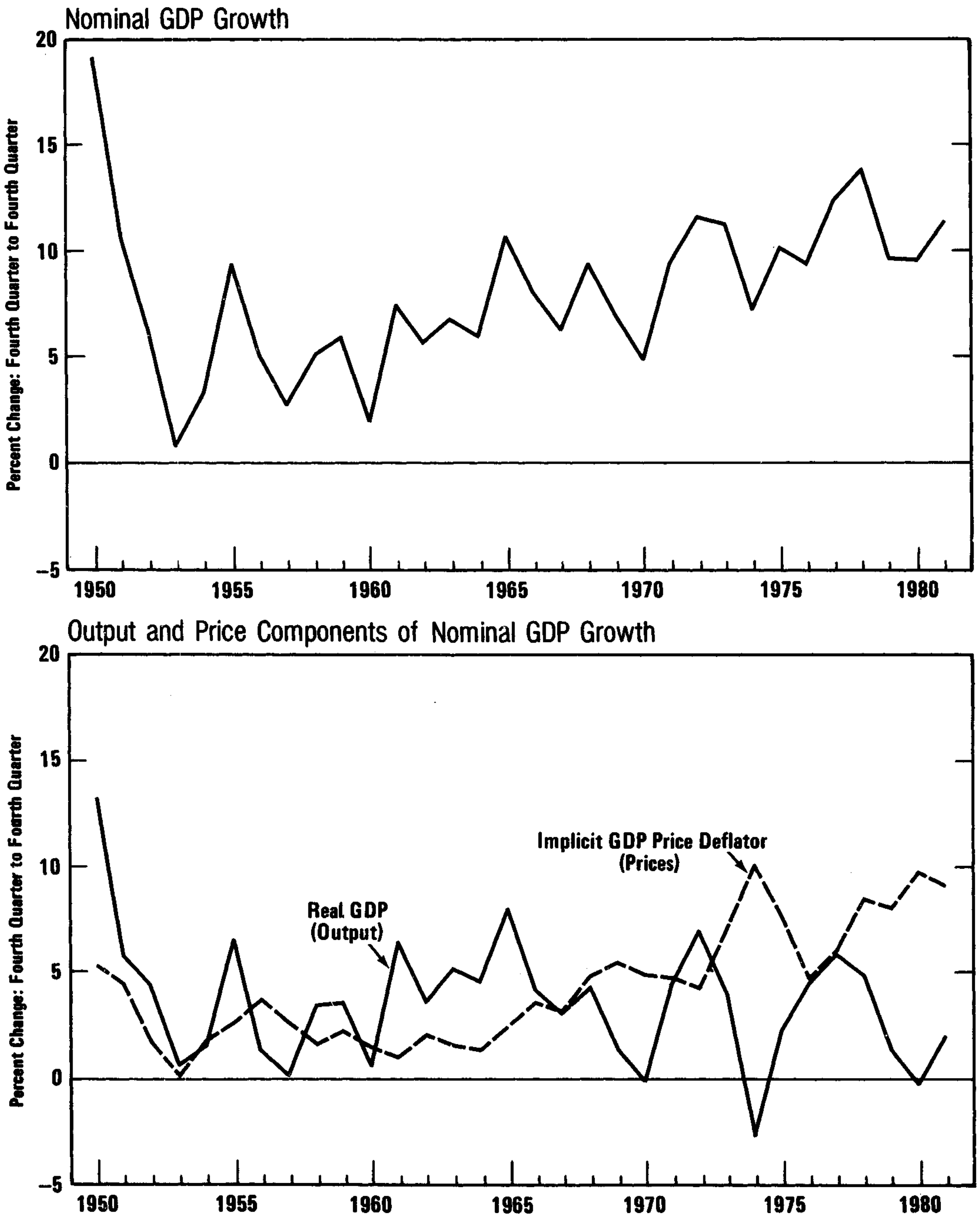
1/ (Continued)

very stable over short periods of time. When the period is lengthened to 24 or 36 quarters, however, the trend in velocity growth becomes considerably smoother. Even though velocity sometimes takes sharp jumps--particularly during economic recoveries--these periods generally do not persist much beyond a year. The determinants of velocity, as well as some factors causing instability in that ratio, are discussed in Chapter II. Financial innovations are continually being made that have the effect of raising the velocity of M1. Also, high interest rates stimulate economizing of money balances and spur financial innovation. To a certain extent, however, these developments can be anticipated. See David E. Lindsey, "Nonborrowed Reserve Targeting and Monetary Control."

Figure 11.
Gross Domestic Product



SOURCE: Department of Commerce, Bureau of Economic Analysis.